

a pilot valve admitting oil under pressure to the top or bottom of the oil-relay cylinder. A drop in the speed of the turbine causes a downward motion of the governor sleeve. This alters the position of the pilot valve, and oil flows under the relay piston, lifting it, and through it the main throttle valve, until the turbine speed comes up to the normal. The reverse occurs if the turbine speeds up.

The nozzle control valves are shown in fig. 27. The high-pressure end of the turbine where the steam enters is separated into three sections by means of auxiliary nozzle control valves. These are directly actuated by the relay piston of the governing gear.

The first portion of the travel of the oil-relay piston affects the steam supply to the first section of nozzles, but movement beyond this opens the valves consecutively for full load and overload.

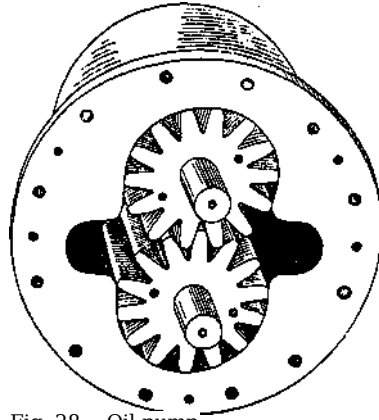


Fig. 28.—Oil-pump

The emergency governor and overspeed device consists of an unbalanced ring placed eccentrically on the shaft next to the thrust block, and held in position central to the shaft by a compression spring. The compression of the spring is overcome at the predetermined maximum speed, and the ring, due to the unbalanced centrifugal force, becomes eccentric to the shaft and

makes contact with a trigger which trips the valve-operating gear. This closes simultaneously the combined emergency valve, stop valve, and the main governor valve.

The trigger can be tripped by hand so that it can be seen that it is in working order at all times.

The oil for the lubrication of the bearings and thrust block and for the operation of the governor gear is supplied from a rotary pump shown in fig. 28. This pump is driven by worm gearing from the turbine shaft. The pump, as can be seen, has no valves.

Leaving the pump, the oil first passes through the governor gear and through a cooler to the bearings and thrust block, and then, flowing by gravity, it passes to the main reservoir through a strainer. The strainer is so arranged that plates can be withdrawn for cleaning whilst running. An auxiliary pump of the duplex reciprocating type is provided to guard against failure. It is brought into operation by any failure in the oil pressure.